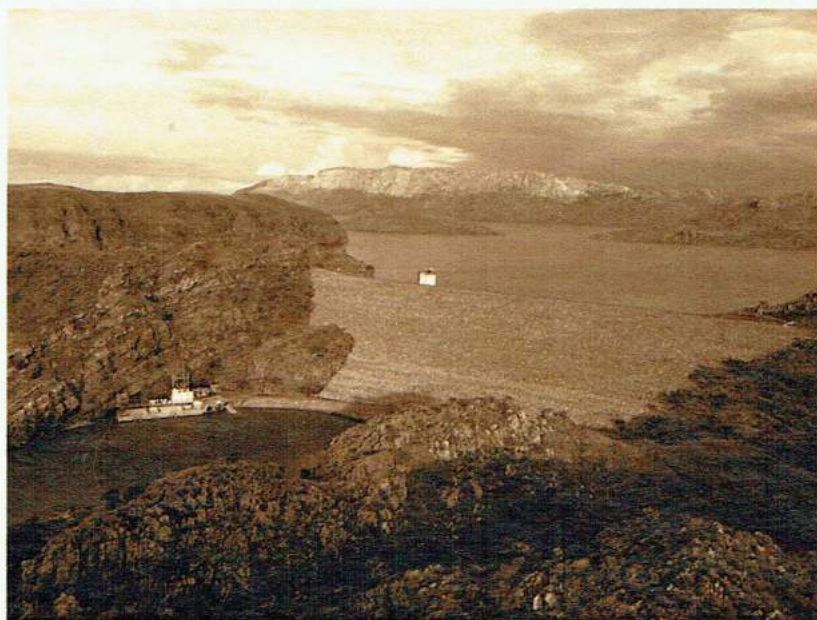




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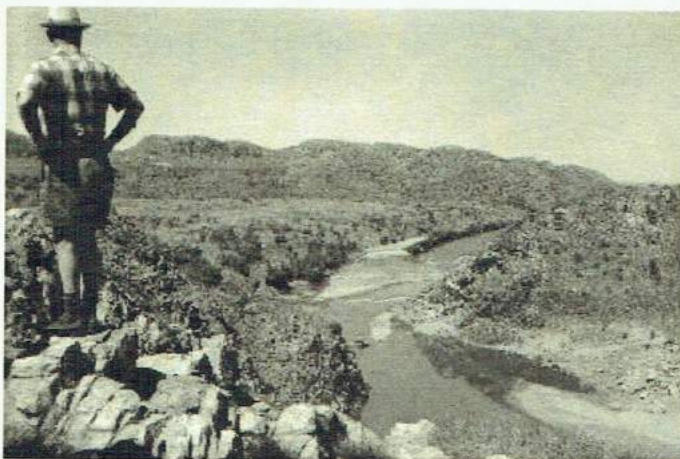
## Ord River Dam



Historic Engineering Marker  
Commemorative Plaque  
Unveiling Ceremony

**Kununurra - Western Australia**

Saturday, 28th August 2004  
Ord River Dam



*On the abutment of Ord River Dam site during inspections by selected tenderers. Photograph (looking upstream) from Brisbane "Courier Mail" of Monday, August 12 1968*

*Proudly presented by*



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## **Program**

### **Welcome**

Mr Ken Kelsall AM HonFIEAust CPEng  
Former Chairman, WA Division  
Engineers Australia

### **History**

Mr Tony Moulds MIEAust CPEng  
Chairman, Engineering Heritage Panel  
Engineers Australia, WA Division

### **Unveiling of the Commemorative Plaque**

Hon. Nick Griffiths MLC  
Minister for Government Enterprises

### **Acceptance of the Commemorative Plaque**

Mr Jim Brown FIEAust CPEng  
General Manager  
Water Corporation

### **Morning Tea**

## A Brief History

In the 1940s investigations were made into various sites for the main dam on the Ord River but, as the magnitude of the wet season discharges of the river became apparent, provision of adequate spillway capacity in the narrow gorge became a problem. Depth to foundation rock was also greater than expected. A submission to the Commonwealth Government for funding in 1956 for the whole scheme was unsuccessful but a five million pounds grant for northern development was offered by Canberra. In the same year Kimberley Research Station reported favourably about the establishment of irrigated agriculture and the Hawke State Government decided to develop Stage One of the scheme (the diversion dam, preparation of the irrigation area and the building of Kununurra) under the grant. Stage One was completed in 1963.

A rockfill dam with a thin impervious core was found to be more economical for the main dam than the type of mass concrete dam that had been proposed originally. It was initially planned to provide for a huge volume of the design flood level by means of a concrete-lined spillway cut through a saddle just downstream of the right abutment of the dam. An innovative alternative was found to be more economical. The spillway was relocated by cutting through rock at a saddle 8 km North-East of the dam. The height of the dam was raised so that it would be able to store major floodwaters and release them gradually over the spillway during the dry season.

The Commonwealth decided to provide a grant for the construction of the main dam in 1967 and the contractor for the works. Dravo Pty Ltd commenced work in April 1969. As work could not be carried out on the dam during the wet season the work was programmed to be carried out during three dry seasons (from April to November). Work was completed in 1971.

Commercial success of tropical agriculture and horticulture has been hard won on the Ord. In 1974 growing of the main crop, cotton, had to be suspended due to the increased resistance of the heliothis moth to insecticides. During the 1980s the growing of low-priced field crops, such as sorghum, ceased to be viable. In the 1990s a highly diversified pattern of horticulture and agriculture proved to be more resilient and profitable, especially those targeting niche markets during the southern winters.

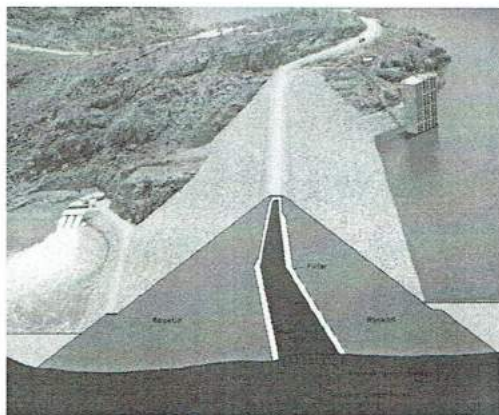




## The Ord River Dam is of national significance -

- o the dam and its associated irrigation scheme changed the economic and social structure of the region by establishing a new agricultural industry and a new town with modern facilities in the midst of a community of sparsely populated cattle stations and a small port town.
- o the Ord River Scheme has been a landmark in the development of Western Australia's north and, in putting the East Kimberley "on the map" for most Australians, has inaugurated a flourishing tourist industry in the region.
- o the dam is a fine example of rock-fill dam technology and its design incorporated several innovative features, which included:-
  - o the staging of the works to permit one wet season's river flows to pass over the partially completed works and the provision of special measures to protect the works from these flows; and
  - o accommodation of the very large estimated peak flood flow by raising the height of the dam to above maximum flood level and providing a small capacity spillway which would gradually release wet season floodwaters during the dry season.
- o the Ord Scheme has been an important research centre for the development of tropical agriculture and the Ord River Regeneration Reserve has provided valuable information on the regeneration of overgrazed pastoral country.
- o the establishment of the Ord irrigation scheme followed in the continuum of two important Australian historical themes, "peopling the north" and "testing the land" and, like earlier examples, commercial success on the Ord has been hard won over more than twenty five years.
- o the development of Kununurra as the Ord Scheme's service centre served as an important model for the establishment of subsequent modern mining towns in the state's north-west.
- o the 30 megawatt hydro-electric power station built at the dam in 1996 was the first in the state to be privately constructed to provide power to the state power authority.
- o the Scheme has historic associations with prominent persons involved in its development, in particular:

Sir Russell Dumas  
Sir Charles Court  
Sir John Parker  
Donald Munro





A group at the signing of the Contract on December 16 1968  
Left to Right: Frank Keet Secretary and Director Dravo Pty Ltd; Ken Kelsall  
Construction Engineer P.W.D.; Don Munro Chief Engineer P.W.D.; Guy Reid  
Project Manager Dravo Pty Ltd; John Parker Director of Engineering P.W.D.;  
George Marley Managing Director Dravo Pty Ltd.

# HISTORIC ENGINEERING MARKER

## Ord River Dam

The Public Works Department of Western Australia with Contractor Dravo Pty Ltd completed this dam in 1972. It opened up 76 000 hectares of land for irrigated agriculture and changed the economic and social structure of the region. The rockfill dam is 68 metres high and 355 metres long and originally impounded 5.8 million megalitres of water, then the largest reservoir in Australia. In 1996 the spillway was raised 6 metres, almost doubling its capacity. Construction engineers were challenged by enormous annual floods and the site's remoteness.

**The Institution of Engineers Australia and  
Water Corporation of Western Australia, 2004**



